



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,547	10/03/2003	James Thomas Carey	NLF-0322	2518

7590 06/18/2007
ExxonMobil Research and Engineering Company
P.O. Box 900
Annandale, NJ 08801-0900

EXAMINER

MCAVOY, ELLEN M

ART UNIT	PAPER NUMBER
----------	--------------

1764

MAIL DATE	DELIVERY MODE
-----------	---------------

06/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/678,547

Applicant(s)

CAREY ET AL.

Examiner

Ellen M. McAvoy

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-15 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of copending Application No.

10/678,468. Although the conflicting claims are not identical, they are not patentably distinct from each other because the the functional fluid comprising a base oil having the properties of (a) a VI of greater than 130, (b) a pour point of about -10°C or lower, (c) a measured to theoretical low temperature viscosity, and optionally (d) a percent Noack volatility, and at least one additive; and the product functional fluid prepared by a certain process, may be the same as that claimed in the co-pending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Art Unit: 1764

Applicants argue that:

“All the independent claims have been amended to include a Noack volatility of less than 15 weight percent. The claims now have a novel limitation over copending Application No. 10/678,468.”

This is not deemed to be persuasive because the other required properties of the base stock or base oil may be the same and the base stock or base oil may be prepared by the exact same process. Thus the Noack volatility of the base stock or base oil in the co-pending application would be expected to be the same as or similar to the claimed base stock or base oil.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berlowitz et al (6,475,960).

Applicants' arguments filed 30 March 2007 have been fully considered but they are not persuasive. As previously set forth, Berlowitz et al ["Berlowitz"] disclose premium synthetic lubricants which comprise a synthetic isoparaffinic hydrocarbon base stock and an effective

amount of at least one, and typically, a plurality of lubricant additives. The base stock is derived from a waxy, paraffinic, Fischer-Tropsch synthesized hydrocarbon feed fraction. The base stock may be prepared from the steps of (i) hydroisomerization, (ii) catalytic or solvent dewaxing, and (iii) fractionation. See column 2, lines 11-26. Berlowitz teaches that the base stocks are premium synthetic lubricating oil base stocks of high purity having a high viscosity index (VI), a low pour point and are isoparaffinic in that they comprise at least 95 weight % of non-cyclic isoparaffins. The base stocks may have the properties set forth in Table 9, in column 14, wherein the VI is 143 and the pour point is -16°C . The examiner is of the position that the premium synthetic lubricants of Berlowitz appear to meet the limitations of the functional fluid and of the process for preparing the functional fluid of the claims. Applicants' invention differs in independent claims 1, 2, 13 and 14 by including property (c) "a ratio of measured-to-theoretical low-temperature viscosity equal to about 1.2 or less, at a temperature of about -30°C or lower, where the measured viscosity is cold-crank simulator viscosity and where theoretical viscosity is calculated at the same temperature using the Walther-MacCoull equation". Independent claims 2 and 14 also add the limitation "a percent Noack volatility no greater than that calculated by the formula $[-6.882\text{Ln CCS@ } -35^{\circ}\text{C}] + 67.647$, where CCS@ -35°C is the base oil CCS viscosity in centipoise". Although the premium synthetic lubricants of Berlowitz are not characterized by such values, the examiner is of the position that the claimed function fluids may be the same as those disclosed in Berlowitz since the properties of VI and pour point may be the same, and since the claimed functional fluid may be prepared by the same process.

Art Unit: 1764

Applicants argue that:

“The specification teaches a process to obtain fluids with exceptional properties that are not found in the prior art. Applicants have run a sample with the most similar properties to Applicant’s invention to demonstrate that the claimed properties are not inherent. The prior art does not disclose the importance of hydrodewaxing with a dewaxing catalyst in combination with other steps to produce a lubricating oil with the claimed properties. Applicants have submitted an expert affidavit with comparative data to support this argument.” And that “Applicants have already demonstrated that unless the specific combination of steps is followed the properties may not have the claimed properties... In addition, the claims now have the limitation of a Noack volatility less than 15 weight percent.”

This is not deemed to be persuasive because Berlowitz teaches in column 3 that the hydroisomerate is dewaxed to reduce the pour point of the oil either catalytically or with the use of solvents. Berlowitz teaches specific dewaxing catalysts in column 8 which include ZSM-23 and ZSM-35 which are some of the same dewaxing catalysts claimed by applicants. Thus the argument made in the affidavit that Berlowitz (‘960) relates only to solvent dewaxed lubricants which produces products inferior to catalytically dewaxed lubricants, is not persuasive. The disclosure of Berlowitz is not limited to the examples but to what is fairly taught to one of ordinary skill in the art. Further, a Noack value of 8.6 weight % is cited for the dewaxed oil in Table 3, and a Noack value of 13 weight % is cited for the dewaxed oil in Table 9, both of which meet the claimed limitation of less than 15 weight % for Noack volatility. Thus the examiner maintains the position that the base stock or base oil of the claims, and the methods of preparing the base stock or base oil of the claims are clearly taught by the disclosure set forth in Berlowitz.

Claim Rejections - 35 USC § 103

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy et al (6,620,312).

Applicants' arguments filed 30 March 2007 have been fully considered but they are not persuasive. As previously set forth, Murphy et al ["Murphy"] disclose a method for producing lube basestocks from waxy feeds including slack wax, Fischer-Tropsch wax, waxy raffinates and waxy distillates to produce a high quality lube oil product having a unique structural character, a low pour point, a low viscosity, and a high viscosity index (VI). The method comprises the steps of (a) hydrotreating the feed to reduce the sulfur and nitrogen contents, (b) hydroisomerizing a portion of the feed to reduce the wax content, (c) separation of the feed, and (d) hydrocatalytic dewaxing at least a portion of the feed from step (c). See column 1, line 37 to column 2, line 18. Properties of a typical product are set forth in Table 7 wherein VI values range from 137-139 and pour point values range from -25°C to -27°C . The examiner is of the position that the premium synthetic lubricants of Murphy appear to meet the limitations of the functional fluid and of the process for preparing the functional fluid of the claims. Applicants' invention differs in independent claims 1, 2, 13 and 14 by including property (c) "a ratio of measured-to-theoretical low-temperature viscosity equal to about 1.2 or less, at a temperature of about -30°C or lower, where the measured viscosity is cold-crank simulator viscosity and where theoretical viscosity is calculated at the same temperature using the Walther-MacCoull equation". Independent claims 2 and 14 also add the limitation "a percent Noack volatility no greater than that calculated by the formula $[-6.882\text{Ln CCS@ } -35^{\circ}\text{C}] + 67.647$, where CCS@"

Art Unit: 1764

-35C is the base oil CCS viscosity in centipoise". Although the premium synthetic lubricants of Murphy are not characterized by such values, the examiner is of the position that the claimed function fluids may be the same as those disclosed in Murphy since the properties of VI and pour point may be the same, and since the claimed functional fluid may be prepared by the same process.

Applicants argue that:

"The specification teaches a process to obtain fluids with exceptional properties that are not found in the prior art. Applicants have run a sample with the most similar properties to Applicant's invention to demonstrate that the claimed properties are not inherent. The prior art does not disclose the importance of hydrodewaxing with a dewaxing catalyst in combination with other steps to produce a lubricating oil with the claimed properties. Applicants have submitted an expert affidavit with comparative data to support this argument." And that "Applicants have already demonstrated that unless the specific combination of steps is followed the properties may not have the claimed properties... In addition, the claims now have the limitation of a Noack volatility less than 15 weight percent."

This is not deemed to be persuasive because Murphy teaches in column 4 that the hydroisomerate is dewaxed to reduce the pour point of the oil either catalytically or with the use of solvents, and Murphy specifically teaches in lines 33-37 of column 4 that the lube fraction may be subjected to hydrocatalytic dewaxing directly, i.e., without being first subjected to solvent dewaxing. Murphy teaches specific dewaxing catalysts in column 5 which include ZSM-23 and ZSM-35 which are some of the same dewaxing catalysts claimed by applicants. Thus the argument made in the affidavit that the applied prior art relates only to solvent dewaxed lubricants which produces products inferior to catalytically dewaxed lubricants, is not persuasive. The disclosure of Murphy is not limited to the examples but to what is fairly taught

to one of ordinary skill in the art. The examiner maintains the position that although the premium synthetic lubricants of Murphy are not characterized by values such as Noack volatility and a ratio of measured-to-theoretical low-temperature viscosity equal to about 1.2 or less, the claimed function fluids may be the same as those disclosed in Murphy since the properties of VI and pour point may be the same, and since the claimed functional fluid may be prepared by the same process.

Claim Rejections - 35 USC § 103

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berlowitz et al (6,080,301).

Applicants' arguments filed 30 March 2007 have been fully considered but they are not persuasive. As previously set forth, Berlowitz et al ["Berlowitz"] disclose a premium synthetic lubricating base stock having a high viscosity index (VI) and low pour point produced by (i) hydroisomerizing a waxy Fischer-Tropsch synthesized hydrocarbons to form a hydroisomerate, (ii) dewaxing the hydroisomerate to reduce its pour point and form a dewaxate, (iii) fractionating the dewaxate to form two or more fractions of different viscosity as the base stocks. See column 1, line 65 to column 2. The product base stock comprises essentially (>99+ wt.%) all saturated, paraffinic and non-cyclic hydrocarbons. Sulfur, nitrogen and metals are present in amounts of less than 1 wppm. Berlowitz teaches that fully formulated lubricating oils are prepared by adding to the base stock an effective amount of at least one additive such as a detergent, dispersant, antioxidant, antiwear agent and viscosity index improver. See column 4, lines 30 to

column 5. Properties of a typical product are set forth in Table 4 wherein a viscosity index of 143 and a pour point of -16°C are set forth. The examiner is of the position that the premium synthetic lubricants of Berlowitz appear to meet the limitations of the functional fluid and of the process for preparing the functional fluid of the claims. Applicants' invention differs in independent claims 1, 2, 13 and 14 by including property (c) "a ratio of measured-to-theoretical low-temperature viscosity equal to about 1.2 or less, at a temperature of about -30°C or lower, where the measured viscosity is cold-crank simulator viscosity and where theoretical viscosity is calculated at the same temperature using the Walther-MacCoull equation". Independent claims 2 and 14 also add the limitation "a percent Noack volatility no greater than that calculated by the formula $[-6.882\text{Ln CCS@ } -35^{\circ}\text{C}] + 67.647$, where CCS@ -35°C is the base oil CCS viscosity in centipoise". Although the premium synthetic lubricants of Berlowitz are not characterized by such values, the examiner is of the position that the claimed function fluids may be the same as those disclosed in Berlowitz since the properties of VI and pour point may be the same, and since the claimed functional fluid maybe prepared by the same process.

Applicants argue that:

"The specification teaches a process to obtain fluids with exceptional properties that are not found in the prior art. Applicants have run a sample with the most similar properties to Applicant's invention to demonstrate that the claimed properties are not inherent. The prior art does not disclose the importance of hydrodewaxing with a dewaxing catalyst in combination with other steps to produce a lubricating oil with the claimed properties. Applicants have submitted an expert affidavit with comparative data to support this argument." And that "Applicants have already demonstrated that unless the specific combination of steps is followed the properties may not have the claimed properties... In addition, the claims now have the limitation of a Noack volatility less than 15 weight percent."

This is not deemed to be persuasive because Berlowitz teaches in column 6 that the hydro-isomerase is dewaxed to reduce the pour point of the oil either catalytically or with the use of solvents. Berlowitz teaches specific dewaxing catalysts in column 7 which include ZSM-23 and ZSM-35 which are some of the same dewaxing catalysts claimed by applicants. Thus the argument made in the affidavit that the applied prior art relates only to solvent dewaxed lubricants which produces products inferior to catalytically dewaxed lubricants, is not persuasive. The disclosure of Berlowitz is not limited to the examples but to what is fairly taught to one of ordinary skill in the art. Further, a Noack value of 13 weight % is cited for the dewaxed oil in Table 4 which meets the claimed limitation of less than 15 weight % for Noack volatility. Thus the examiner maintains the position that the base stock or base oil of the claims, and the methods of preparing the base stock or base oil of the claims are clearly taught by the disclosure set forth in Berlowitz.

Claim Rejections - 35 USC § 103

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertomeu (6,599,864).

Applicants' arguments filed 30 March 2007 have been fully considered but they are not persuasive. As previously set forth, Bertomeu discloses a hydrocarbon base oil for high end lubricants having a viscosity index (VI) not less than 130 and a pour point of less than -18°C comprising mainly long isoparaffinic hydrocarbon chains, branched over several carbon atoms. See column 2, line 54 to column 3, line 15. Bertomeu teaches a method for preparing the

hydrocarbon base oil consisting successively of hydrotreatment, hydrodewaxing, fractionation and hydrofinishing phases of cuts of residues resulting from hydrocracking. Bertomeu teaches that the hydrocarbon base oil can be measured by a new index called viscosity when cold (VIF) such that the oil has a ratio of cold viscosity index (VIF)/viscosity index (VI) that is greater than or equal to 1. See column 3, line 53 to column 4, top. The examiner is of the position that the premium synthetic lubricants of Bertomeu appear to meet the limitations of the functional fluid and of the process for preparing the functional fluid of the claims. Applicants' invention differs in independent claims 1, 2, 13 and 14 by including property (c) "a ratio of measured-to-theoretical low-temperature viscosity equal to about 1.2 or less, at a temperature of about -30°C or lower, where the measured viscosity is cold-crank simulator viscosity and where theoretical viscosity is calculated at the same temperature using the Walther-MacCoull equation".

Independent claims 2 and 14 also add the limitation "a percent Noack volatility no greater than that calculated by the formula $[-6.882\text{Ln CCS@ } -35^{\circ}\text{C}) + 67.647]$, where CCS@ -35°C is the base oil CCS viscosity in centipoise". Although the premium synthetic lubricants of Bertomeu are not characterized by such values, the examiner is of the position that the claimed function fluids may be the same as those disclosed in Bertomeu since the properties of VI and pour point may be the same, and since the claimed functional fluid may be prepared by the same process.

Applicants argue that:

"The specification teaches a process to obtain fluids with exceptional properties that are not found in the prior art. Applicants have run a sample with the most similar properties to Applicant's invention to demonstrate that the claimed properties are not inherent. The prior art does not disclose the importance of hydrodewaxing with a dewaxing catalyst in combination with other steps to produce a lubricating oil with the claimed properties. Applicants have submitted an expert affidavit with comparative data to support this

argument.” And that “Applicants have already demonstrated that unless the specific combination of steps is followed the properties may not have the claimed properties... In addition, the claims now have the limitation of a Noack volatility less than 15 weight percent.”

This is not deemed to be persuasive because Bertomeu teaches in column 5 that the second phase of catalytic dewaxing takes place at high temperatures in the presence of a zeolite type catalyst doped by noble metals such as platinum which is one of the same dewaxing catalysts claimed by applicants. Thus the argument made in the affidavit that the applied prior art references relate only to solvent dewaxed lubricants which produces products inferior to catalytically dewaxed lubricants, is not persuasive. Further, Bertomeu teaches in column 3, lines 30-35, that the product base oil has a Noack volatility value of less than 13% by weight which meets the claimed limitation of less than 15 weight % for Noack volatility. Thus the examiner maintains the position that the base stock or base oil of the claims, and the methods of preparing the base stock or base oil of the claims are clearly taught by the disclosure set forth in Bertomeu.

THIS ACTION IS MADE FINAL. Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

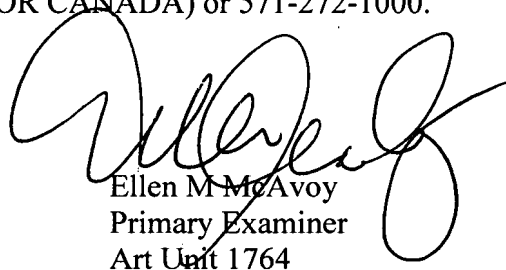
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ellen M. McAvoy
Primary Examiner
Art Unit 1764

EMcAvoy
June 13, 2007